

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Jung-Lim Yoon, *et al.*
Filing Date: Herewith
Title: FLIP CHIP TYPE SEMICONDUCTOR DEVICE AND METHOD OF
FABRICATING THE SAME

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.10

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10/10/01

Date

Vanessa Marakas

Vanessa Marakas

BOX PATENT APPLICATION
Assistant Commissioner for Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir:

Prior to prosecution on the merits, please amend the above-identified application as follows:

In the Specification

Please replace the paragraph at page 6 line 22 through page 7 line 10 with the following rewritten paragraph.

-- In the passivation layer 60 of the pad area, at least one first metal line 68a is disposed, and in the passivation layer 60 of the fuse area b, a plurality of, for example at least a pair of, second metal lines 68b are disposed. Top surfaces of the first and second metal lines 68a, 68b have the same height as a top surface of the passivation layer 60. The first and second metal lines 68a, 68b include a copper layer pattern 67 having superior conductivity and electromigration as compared with an aluminum layer, and a diffusion barrier metal layer pattern 65 enclosing side walls and bottoms of the copper layer pattern 67. It is desirable that the diffusion barrier metal

FOOTNOTES 52042660

layer pattern 65 include a material layer, for example a tantalum nitride layer which can prevent copper elements in the copper layer pattern 67 from penetrating through the interlayer insulation layer 53 and the passivation layer 60.--

[illegible]

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U.S. Serial No.: Not yet assigned

Version with Markings to Show Changes Made

In the Specification

The specification has been amended as follows:

The paragraph at page 6 line 22 through page 7 line 10 has been amended as follows:

(Amended) In the passivation layer 60 of the pad area, at least one first [fist] metal line 68a is disposed, and in the passivation layer 60 of the fuse area b, a plurality of, for example at least a pair of, second metal lines 68b are disposed. Top surfaces of the first and second metal lines 68a, 68b have the same height as a top surface of the passivation layer 60. The first and second metal lines 68a, 68b include a copper layer pattern 67 having superior conductivity and electromigration as compared with an aluminum layer, and a diffusion barrier metal layer pattern 65 enclosing side walls and bottoms of the copper layer pattern 67. It is desirable that the diffusion barrier metal layer pattern 65 include a material layer, for example a tantalum nitride layer which can prevent copper elements in the copper layer pattern 67 from penetrating through the interlayer insulation layer 53 and the passivation layer 60.